

## **REMARKS**

Applicants appreciate the Examiner's allowance of Claim 7.

Applicants are amending Claim 1 to insert a missing comma “,” and amending Claim 10, to replace “arbitral” with “arbitrary.”

Applicants will address each of the remaining rejections in the order in which they appear in the Office Action.

### **Claim Rejections – 35 USC §112**

In the Office Action, the Examiner now rejects Claims 4-6, 8-9, 11 and 12 under 35 USC 112, second paragraph, as being indefinite. This rejection is respectfully traversed.

While Applicants traverse this rejection, in order to advance the prosecution of this application, Applicants are amending independent Claims 4, 5 and 8 so that they each comprise a single sentence and have removed the parenthesis, in accordance with the Examiner's suggestion.

With regard to the features beginning with “Alternatively” in the claims, this feature has been moved to new dependent Claims 17-19. It is respectfully submitted that the features of new Claims 17-19 are consistent with the independent claims, which recite that any of R<sup>1</sup>, R<sup>2</sup>, R<sup>3</sup> and R<sup>4</sup> may represent an alkyl group. Therefore, no new matter is being added.

Please charge our deposit account 23/0920 for any fee for these new claims.

Therefore, it is respectfully submitted that the objections under 35 USC 112, second paragraph have been overcome, and it is respectfully requested that this rejection be withdrawn.

## Double Patenting

### US 7,564,052

The Examiner also rejects Claims 1-3, 11 and 12 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 1, 2, 4, 5, 7, 8, 10, 11, 17, 18, 20, 21, 23, 24, 26 and 27 of U.S. 7,564,052. This rejection is also respectfully traversed.

Applicants note that the '052 patent and the present application are both based on PCT international applications filed on November 4, 2005 based on foreign filings of November 5, 2004. Therefore, since they both have the same priority dates, there is no double patenting between the present application and the '052 patent.

Accordingly, it is respectfully requested that this rejection be withdrawn.

### US 7,598,670

The Examiner also rejects Claims 1-3, 11-16 on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 3, 5, 7, 11 and 12 of U.S. 7,598,670. This rejection is also respectfully traversed.

In particular, the Examiner contends that “the layers disclosed by '670 for a device structure comprise materials meeting the requirements for the materials of the layers of the instant claims.” Applicants respectfully disagree.

The claims of the '670 patent merely recite that the layers contain “an aromatic amine”, “molybdenum oxide”, “a first substance that transports an electron easily” and “a second substance with an electron donating property.” In contrast, the claims of the present application specifically recite “the first layer contains a first substance of *which a ratio of any one of an electron mobility and a hole mobility to the other one is 100 or less,*” and “the second layer

contains a third substance of which a ratio of any one of an electron mobility and a hole mobility to the other one is 100 or less“ (emphasis added). Hence, the ‘670 patent generally recites broad material families and does not disclose or suggest any specifics regarding the relative values of electrons and holes mobilities of any of the recited materials. In contrast, the feature of the claims of, for example, “layer contains a first substance of which a ratio of any one of an electron mobility and a hole mobility to the other one is 100 or less” is not a general characteristic of materials used in light-emitting structures but a rather specific one, restricted to but a few materials.

Further, the Examiner does not provide any justification of his contention that “the layers disclosed by ‘670 for a device structure comprise materials meeting the requirements for the materials of the layers of the instant claims.” If the Examiner wishes to continue to make this contention, then a detailed explanation and justification needs to be provided.

Therefore, the claims of the present application are patentably distinct over that which is recited in the claims of the ‘670, and there is no double patenting.

Accordingly, it is respectfully requested that this rejection be withdrawn.

#### Application 10/582,249

The Examiner also rejects Claim 1-3 and 10-16 provisionally on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 5, 6, 7, 14, 15, 21 of copending application 10/582,249. This rejection is also respectfully traversed.

In particular, the Examiner contends that “the specific materials claimed for the first, second and third layers by ‘249 meet the requirements for materials of the layers of the instant claims.” Applicants respectfully disagree.

Claim 5 of the '249 application, for example, recites “first layer comprising 4,4'-bis[N-(1-naphthyl)-N-phenylamino] biphenyl and molybdenum oxide” and “second layer comprising tris(8-quinololato) aluminum and lithium.” In contrast to the Examiner’s contention, the recited materials in the '249 application do not meet the requirements of the claims of the present application. For example, according to paragraph [0053] of the publication of the present application (US 2008/0241586), the ratio hole mobility to electron mobility of 4,4'-bis[N-(1-naphthyl)-N-phenylamino]biphenyl is superior to 100 (i.e. 100 or more), while the claims of the present application require this ratio to be inferior to 100 (i.e. 100 or less). Therefore, Claim 5 of the '249 application does not meet the requirements of the materials of the layer of the present application.

In addition, Claim 7 of the '249 application appears to merely recite “first substance” or “second substances”, and some of their properties such as “electron transport property” or “electron donating property.” In contrast, as explained above, the claims of the present application specifically recite “the first layer contains a first substance of which a ratio of any one of an electron mobility and a hole mobility to the other one is 100 or less,” and “the second layer contains a third substance of which a ratio of any one of an electron mobility and a hole mobility to the other one is 100 or less.” Hence, the '249 application generally recites broad material families and does not disclose or suggest any specifics regarding the relative values of electrons and holes mobilities of any of the recited materials.

Further, the Examiner does not provide any justification of his contention that “the specific materials claimed for the first, second and third layers by '249 meet the requirements for materials of the layers of the instant claims.” If the Examiner wishes to continue to make this contention, then a detailed explanation and justification needs to be provided.

Therefore, the claims of the present application are patentably distinct over that which is recited in the claims of the '249 application, and there is no double patenting.

Accordingly, it is respectfully requested that this rejection be withdrawn.

Application 10/577,472

The Examiner also rejects Claims 1-3 and 11-16 provisionally on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 1-40 of copending application 10/577,472. This rejection is also respectfully traversed.

Initially, Applicants note that application 10/577,472 has now issued as U.S. Patent 7,750,560. Therefore, Applicants' comments herein are directed to the claims as issued in US 7,750,560.

Claims 1-40 of the '560 patent recite "aromatic amine skeleton", "chelate metal complex...", "phenathroline skeleton", "oxadiazole skeleton", "metal oxide," etc. In contrast, as explained above, the claims of the present application specifically recite "the first layer contains a first substance of which a ratio of any one of an electron mobility and a hole mobility to the other one is 100 or less," and "the second layer contains a third substance of which a ratio of any one of an electron mobility and a hole mobility to the other one is 100 or less." Hence, the '560 patent generally recites broad material families and does not disclose or suggest any specifics regarding the relative values of electrons and holes mobilities of any of the recited materials.

Further, the Examiner does not provide any justification of his contention that "the materials claimed for the first, second and third layers of a light emitting device structure claimed by '472 meet the requirements for materials of the layers of the instant claims."

If the Examiner wishes to continue to make this contention, then a detailed explanation and justification needs to be provided.

In addition, while in the claims of the present application, the light-emitting layer (third layer) is comprised between the second electrode and the second layer, in Claims 1-40 of the '560 patent, the light-emitting layer is separated from the electrodes by other layers, one on each side. Therefore, the structure described in Claims 1-40 of the '560 patent is different from that in the present claims.

Therefore, the claims of the present application are patentably distinct over that which is recited in the claims of the '560 patent, and there is no double patenting.

Accordingly, it is respectfully requested that this rejection be withdrawn.

### Conclusion

It is respectfully submitted that the present application is in a condition for allowance and should be allowed.

If any fee should be due for this amendment, please charge our deposit account 23-0920.

Favorable reconsideration is earnestly solicited.

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Respectfully submitted,

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